WHAT IS CLAIMED IS:

1. An internal combustion engine system comprising:

an internal combustion engine comprising a number of piston cylinders, a piston slidably disposed within each cylinder, each cylinder comprising an exhaust gas port disposed therethrough positioned near a bottom portion of the cylinder so that the port is exposed when the piston is at the bottom of its stroke within the cylinder, and that is covered when the piston moves upwardly in the cylinder towards the top of its stroke; and

means for accommodating a volume of exhaust gas routed from the piston cylinder exhaust gas port when the piston within the cylinder is at the bottom of a work stroke for reintroduction back through the exhaust gas port and into the cylinder when the piston is at the bottom of its compression stroke.

2. The system as recited in claim 1 comprising a number of means for accommodating that are each in exhaust gas flow communication with the exhaust gas port of a respective piston cylinder.

3. The system as recited in claim 1 wherein the means for accommodating comprises a storage tank that is external from the engine.

4. The system as recited in claim 3 further comprising a valve attached to the storage tank for adjusting the pressure of exhaust gas stored within the tank.

5. The system as recited in claim 1 further comprising a turbocharger connected to the engine, the turbocharger including a turbine housing with an exhaust gas inlet that is in exhaust gas flow communication with one or more piston cylinder exhaust gas ports.

6. The system as recited in claim 1 wherein the means for accommodating is connected between two piston cylinders to direct exhaust gas received from the exhaust gas port a first connected piston cylinder to the exhaust gas port of the second connected piston cylinder.

7. An internal combustion engine system comprising:

an internal combustion engine comprising a number of piston cylinders;

a piston slidably disposed within each cylinder;

at least one exhaust valve and one intake valve positioned adjacent an end of each cylinder;

an exhaust gas port disposed through each piston cylinder positioned near a bottom portion of the cylinder so that the port is exposed when the piston is at the bottom of its stroke within the cylinder, and is covered when the piston is moved towards the top of its stroke; and

means for transferring a volume of exhaust gas from the exhaust gas port of at least one cylinder through an exhaust gas port of at least one other cylinder for combustion;

wherein exhaust gas passes through the exhaust port of each piston cylinder when the respective piston is at the bottom of its work stroke and is passed through the exhaust port of a different piston cylinder comprising a piston that is at the bottom of its compression stroke.

8. The system as recited in claim 7 wherein the means for transferring is external from the engine.

9. The system as recited in claim 7 further comprising a turbocharger connected to the engine, the turbocharger including a turbine housing with an exhaust gas inlet that is in exhaust gas flow communication with one or more piston cylinder exhaust gas ports.

10. An internal combustion system comprising:

an internal combustion engine comprising a piston cylinder and a piston slidably disposed within the cylinder, the cylinder including an exhaust gas port disposed through a wall section of the cylinder and positioned near a bottom portion of the cylinder so that an opening of the port is exposed when the piston is at the bottom of its stroke within the cylinder, and an opening of the port is covered when the piston is moved towards the top of its stroke; and

a turbocharger connected to the engine and comprising a turbine wheel in exhaust gas flow communication with the exhaust gas port wherein pulsed exhaust gas exits the piston cylinder through the exhaust port, when the piston is near a bottom portion of its work stroke, and is directed to the turbine wheel to cause the turbocharger to produce boost air for directing to the engine.

11. The system as recited in claim 10 further comprising a valve interposed between the turbine wheel and the exhaust gas port to control the amount of exhaust gas directed to the turbine wheel.

12. The system as recited in claim 10 comprising a number of piston cylinders each having the exhaust gas port, and a number of turbochargers each having a turbine wheel in gas flow communication with a respective exhaust gas port.

13. The system as recited in claim 10 wherein the turbine wheel only receives exhaust gas from the exhaust gas port.

14. The system as recited in claim 10 comprising more than one piston cylinder each having the exhaust port, and the turbocharger turbine wheel receives exhaust gas from the more than one piston cylinder.

15. An internal combustion engine system comprising:

an internal combustion engine comprising a number of piston cylinders;

a piston slidably disposed within each cylinder;

at least one exhaust valve and one intake valve positioned adjacent an end of each cylinder;

an exhaust gas port disposed through each piston cylinder positioned near a bottom portion of the cylinder so that an opening of the port is exposed when the piston is at a bottom of its stroke within the cylinder, and an opening of the port is covered when the piston is moved towards a top of its stroke;

a turbocharger connected to the engine comprising:

a turbine housing having an exhaust inlet in gas flow communication with the exhaust gas port, an exhaust outlet in gas flow communication with an exhaust flow from the engine, and a turbine wheel rotatably disposed therein; and a compressor housing having an air inlet, a pressurized air outlet, and a compressor impeller rotatably disposed therein and connected with the turbine wheel, wherein the pressurized air outlet is in air flow communication with the engine intake valve;

wherein pulsed exhaust gas is directed to the turbine wheel when the piston is near a bottom portion of its work stroke in the cylinder, to cause the compressor impeller to produce boost air that is directed to piston cylinder during its intake stroke.

16. An internal combustion engine system comprising:

an internal combustion engine comprising a number of piston cylinders, a piston slidably disposed within each cylinder, each cylinder comprising an exhaust gas port disposed therethrough positioned near a bottom portion of the cylinder so that the port is exposed when the piston is at the bottom of its stroke within the cylinder, and that is covered when the piston moves upwardly in the cylinder towards the top of its stroke;

means for accommodating a volume of exhaust gas routed from the piston cylinder exhaust gas port when the piston within the cylinder is at the bottom of a work stroke for reintroduction back through at least one of the exhaust gas ports and into at least one of the respective cylinders; and

a turbocharger connected to the engine and comprising a turbine wheel in exhaust gas flow communication with at least one of the exhaust gas ports,

wherein pulsed exhaust gas exits the piston cylinder through at least one of the exhaust ports and is directed to the turbine wheel to cause the turbocharger to produce boost air for directing to the engine.